Jurnal Ekonomi Pembangunan
Vol. 7, No. 2, Desember 2006, hal. 243 - 248

AN ANALYSIS OF FACTORS INFLUENCING MIGRANTS' INCOME

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ABSTRACT

This study aims to examine the factors influencing the Sukoharjo migrants' income in Surakarta. It used multiple linear regressions. In order to find the good estimate, it used classic assumption and statistic tests. The findings of this study indicate that education level and household responsibility has a positive influence on migrants' income while working experience has a positive relation to migrants' income, but it does not significantly. The findings of classic assumption test indicate that the model used is specific and free from multi-co-linearity problem while there are heteroskedasticity and morality problems.

***Keywords**: migrants' income, regression, classic assumption test, statistic test*

INTRODUCTION

Population mobility (migration) is essentially a reflection of different growth and inequality between one region's development facilities and the other. It is the condition that encourages the labor forces' mobility of a region with low development facilities to migrate to high development ones, i.e. between rural area and urban area (Saefullah, 1994).

Mantra (1992) states that the people's main intention to migrate to urban area is caused by economic factor. It develops as a result of the gap between areas. The most rational condition where individuals do mobility is an expectation to find a job and obtain higher income. As quoted by Hossain (2001), Robert and Smith state that the inequality and agriculture crops in a rural area motivate people to migrate to an urban area. In line with this, Todaro (1992; 1998) states that the migration is essentially an economic phenomenon where there is a different income as expected rather than actual income between the rural and urban.

According to Tinus (1991), the form of rural-urban migration in developed countries (included in Indonesia) is the high concentration in big cities, i.e. those with very relative-modern and dynamic sectors, in one side. The less dynamic small cities frequently have a low net migration rate (difference between out-migration and in-migration), in the other side. Thus, the rural-urban migration is due to not only the factor

in a rural area but also that in interest in an urban one (Titus, 1991).

In real, however, the form of the rural-urban labor forces' migration (mobility) is not always the labor forces' movement from small areas (subdistrict/regency) to big areas (province/capital). The form of destination area has four categories, including urban town, small city, medium-sized city and big city (Yang, 1992). Many phenomena indicate that there is the labor forces' mobility from a hometown to urban one around it. It is usually influenced by the unavailability in opportunities of employment at hometown, or the constriction of productive land for the expansion of settlement development. In fact, this condition is partly described through the labor forces' mobility from Sukoharjo to Surakarta. They leave their areas for working temporarily in Surakarta in the morning and go home in the evening everyday. Thus, it is clear that they do mobility for economic factor (increasing welfare). In terms of economic factor as the main factor encouraging the Sukoharjo labor forces' mobility, the study aims to analyze the influences of the factor in work length, the amount of household responsibility and education level on the migrants' income in Surakarta.

A person's main factor to do mobility to another area is an economic factor (Todaro, 1998), i.e. an expectation to result in higher income. Related to this, the amount of the income that will result from is influenced by the work length, the amount of household responsibility, education level (Purwadi, 1995). Thus, the problem formulation in this study is "What is the influences of work length, the amount of household responsibility, and education level on the migrants in Surakarta?"

THEORY AND RESEARCH

In terms of analyzing internal migration economy, Todaro (1992) states that Fei and Ranis developed Lewis migration theory (1954), i.e. regarding a process of the labor forces' migration from a rural area to urban one, in 1961. Then, it is accepted and called Lewis-Fei-Ranis (LFR) Model. The main focus of this model is on the process of the labor forces' migration and the growth of employment opportunities at modern sector (Todaro, 1992).

According to Lee (1992), in each area they are a lot of factors influencing people to live there and there are also those forcing to leave for the area. The factors in the migrants' hometown, for example, can be a factor encouraging to leave for it or not to move to an area while regarding the migrants' destination area, the factor can be a factor encouraging or avoiding people from coming there.

In his economic theory on rural-urban migration, Todaro (1998) states that the rural-urban migration is essentially an economic phenomenon. Therefore, the decision making to migrate is a decision that has been formulated rationally. Todaro thinks (1998) that the migration flow is a response to the income difference between the rural and urban. The labor forces will make a decision if their net income exceeds their income in a rural area.

As stated by Lieby and Stark (1988) and then quoted by Oishi (2002), the household strategy theory states that the migration decision is not taken by individuals but by

households. In this approach, people collectively take an action for maximizing their income as well as minimizing the risk of households' members. The households control the risk of economic welfare by varying the allocation of the households' sources such as the households' labor force.

Mantra's, and Penny and Singaribun's findings of the studies (as quoted by Mantra) indicate that around 50% of the populations in a rural area of Java do not possess a rice field. According to Mantra, it is the rare field in a hometown that makes a rural-urban migration process, particularly in the rural area of Java. Furthermore, Mantra (1992) states that the destination area is also an expectation for finding a job and higher income. Kennan and Walker (2002) state that the difference of location or destination area influences a person's migration decision-making where the bigger areas (big cities) are more interested in those who will migrate to the areas.

Zhao's findings of the research (1998) with the survey in Sichuan province, China, indicate that the variables of age, education, amount of children studying and not studying, size of rural rice field, tax paid for in a year, asphalt roads connecting the rural area to urban ones, and telephone media to the rural area statistically affect a migration decision-making.

RESEARCH METHOD

Kind and Source of Data

This study used primary and secondary data. The primary data came from respondents (i.e. commuters) through interview using questionnaires. The areas indicate the commuters' phenomenon working in an informal sector of Surakarta area. The secondary data came from institutions and other related sources such as literatures, publications and reports.

Population and Sample

The population of this study was the migrants (commuters) coming from Development Territory VII (previously the territory of Surakarta residency) and working in an informal sector of Surakarta. The sample of this study used purposive sampling method i.e. the commuters who have worked for more than one year. The amount sample was around 100 respondents.

Operational Variable Definition

The work length is a time limit that has been taken by a person from beginning to work to the condition as expected (Mantra, 200). The amount of household responsibility refers to the number of people depending on the head of household. They can include wife, child, parent, brother/sister, or other people living inside a single house or outside the house but they depend on the head of household. The education level refers to a formal education length of a person.

Analysis Technique

The analysis of this study used a quantitative approach with multiple regression analysis (Gujarati, 2003) in order to explain the aim of study with some econometric tests (Purwadi, 1995). The model of mathematic equation is as follows:

$$Y = \alpha + \beta_1 T\_WORK + \beta_2 RES + \beta_3 ED + \ell$$

where:

Y = income,
T_WORK = work length,
RES = household responsibility,
ED = education level.

RESULTS OF STUDY

The results of this study indicate that the model of predicting parameter estimate used linear regression count with ordinary least squares (ODLs) model. Referring to the result of regression analysis with a 3,0 *eviews* program, the estimate score is as follows:

$$Y = 89115{,}82 + 2058{,}84\ T\_WORK + \underset{(0{,}475366)}{}$$

$$36254{,}73\ RES + 22262{,}78\ ED + ut$$
$$\underset{(1{,}896107)*}{} \qquad \underset{(2{,}308721)**}{}$$

Durbin - Watson test = 1,521030 R Squared = 0,101586
F Ratio = 2,48758

Note: ** = significant α = 5%; * = significant α = 10%

The figures of the brackets are *t* test. The classic assumption tests include multi-co-linearity, heterokedasitas model accuracy and normality tests. The statistic test consists of model goodness test, including F test and goodness-of-fit test (interpretation of R^2), and influencing validity (t test) test.

The multi-co-linearity test used the Klein method. The result of comparing the score of $R_{auxiliary}^2$ with R states that H_0 was committed. It could be concluded that the model did not have a serious multi-co-linearity.

The heteroskedasticity test used the White method. The result of data analysis indicates that the score of χ^2 for the model was 19.35547 with the significance score at 0.003604. The result of comparing the score of χ^2_{count} was 19.35547 where the figure was more than $\chi^2_{(0.05;\ 7)}$ at 14.0671, thus, H_0 was uncommitted. It could be concluded that the model had heterokedasitas.

The model specification test used Ramsey-Reset method. The score of F_{count} Ramsey-Reset model is as follows:

$$F = \frac{\left(R^2_{New} - R^2_{old}\right)/P}{\left(1 - R^2_{New}\right)/(n-k)}$$

with lag 1 at 1.059985, with probability score at 0.307034. The result of comparing F_{count} at 1.059885 where the figure was less than $F_{(0.05;\ df)}$ at 4.00, thus, H_0 was committed. It could be concluded that it was a linear model.

The determinant coefficient (R^2) is the size used for knowing goodness of fit from regression equation. It is used for knowing the extent to what the influence of independent variable variation in explaining wholly on the dependent variable variation is. From the result of equation estimate, the determinant coefficient (R^2) was 0.101586. It means that 10.1586% of the migrants' income variation coming Sukoharjo could be explained by the variation of work length, household responsibility and education level variables. The rest of 89.8414% was explained by the other factors.

The F test was used for examining whether the model of exist was used as estimate or not. The F score counted with this formula:

$$F = \frac{R^2/(k-1)}{(1-R^2)/(n-k)}$$

where:

R^2 : regression coefficient
k : number of parameters in model
n : amount of samples

was 2.487588, therefore, by comparing between F_{table} at 2.18 and F_{count} at 2.487588, F_{count} > from F_{table}, H_0 was uncommitted (the model of exist in use).

The *t* test for individual independent variable was intended to know the significance of dependent variable by assuming that the other independent variable was constant. The examination of the *t* test was by comparing the score of *t* count with *t* table. If $t_{count} < - t_{table}$ or $t_{count} > t_{table}$, thus, H_0 was uncommitted. It could be concluded that the independent variable influenced the dependent variable significantly. If $- t_{table} < t_{count} < t_{table}$, thus, H_0 was committed. It could be concluded that the independent variable influenced the dependent variable insignificantly. The result of the *t* test indicates that the independent variables RES (household responsibility) and ED (education level) influenced the Y variable (migrants' income) because the respective independent variables were not included in $-1.671 < t_{count} < t_{table}$ (1.671). But, the T_WORK variable did not influence the Y variable (migrants' income) because the score of the t_{count} variable was included in $-1.671 < t_{count} < t_{table}$ (1.671).

■ **Economic Interpretation**

Based on the regression analysis seems that there are only two variables in the model influencing the migrants' income coming Sukoharjo i.e. the household responsibility and education level variables. Both influence $\alpha = 0.10$ while the work length variable does not influence the migrants' income at $\alpha = 0.10$.

The coefficient score of ED (education level) indicates the positive parameter with the score of 22262.78. It means that if the education level increases one year, the migrants' income will raise Rp.22262.78 with the more-than-90% level. It is suitable to the theory, stating that the increased education level will raise a person' wage or income. This, in fact, occurs in the Sukoharjo migrants' income in Surakarta.

The coefficient score of RES (household responsibility) indicates the positive parameter with the score of 36254.73. It means that if the education level increases one person, the migrants' income will raise Rp.36254.73 with the more-than-90% level. It is suitable to the theory, stating that the increased household responsibility will raise a person' wage or income. This, in fact, occurs in the Sukoharjo migrants' income in Surakarta.

CONCLUSION

From the analysis, it could be concluded that *first*, the result of regression analysis indicates that the household responsibility and education level have a positive influence on the Sukoharjo migrants' income in Surakarta while he work length does not, but it has a positive relation. *Second*, the classic assumption test seems that the model has a heteroscedasticity problem and is not normal. However, the model does not have a multi-co-linearity problem and is specific. *Third*,

the statistic-diagnostic test indicates that the model used exists but the score of R^2 is sufficiently small and there are two significant variables.

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